

Case Report

Homicide-suicide in Tours, France (2000–2005) – description of 10 cases and a review of the literature

P. Saint-Martin MD *, M. Bouyssy MD, P. O'Byrne MD

Institute of Forensic Science, University Hospital of Tours, Trousseau, 37044 Tours cedex 9, France

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Abstract

Homicide-suicides often attract media attention. Only one other study of homicide-suicide events in France have been conducted. American authors have emphasized the importance of developing a research strategy, based on reports of these events. Our study of the characteristics of all homicide-suicide in Tours between 2000 and 2005, is compared with published data. We have attempted to classify such homicide-suicides in accordance with other published studies.

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1. Definitions

Homicide-suicide (HS), has been defined by a homicide (codes E960–E969 of the International Statistical Classification of Diseases, Ninth Revision ICD-9¹) committed by a person who subsequently commits suicide (ICD-9 codes E950–E959) within one week of the homicide. The use of the term HS has been preferred to “murder-suicide”, because the term “murder” has a specific definition and is only determined after a full criminal trial. The term “dyadic death” has also been used for these incidents, because deaths often involve a pair of persons.² There is no French terminology for these events; the English term is used.

The interval of one week between homicide and suicide is important to distinguish the group in which suicide appears to be linked with a prior homicide from a group of violent persons with a history of assaults and murders who eventually commit suicide. A close temporal proximity between homicide and suicide – most of the time a few minutes or a few hours – demonstrates that neither act is inci-

dental to the other. Many events had been carefully planned as an unified two-stage sequential act.

Suicide pacts have been included in our study when circumstances showed that one person killed the other before committing suicide. We have excluded individuals who only assault other prior to suicide, those who commit homicide but fail to complete a suicide attempt and cult HS. HS perpetrators have also been distinguished from two much less commonly encountered offenders: mass murderers (an offender who wilfully injures five or more persons, of whom three or more are killed) and serial murderers (an offender who kills others in three or more separate incidents).³ Mass and serial murderers are infrequent in France.

HS occupies a distinct epidemiological domain that overlaps with suicide and domestic homicide. These events are often of great concern because they result in the death of family members and family children; they can cause family disruption and psychological trauma.

2. Epidemiology of homicide-suicide events

HS are relatively uncommon events. The incidence of HS seems to be constant in the available literature,

* Corresponding author. Tel.: +33247477555; fax: +33247477577.
E-mail address: pauline_saintmartin@yahoo.fr (P. Saint-Martin).

although the countries studied showed variation in overall suicide and homicide rates. In 1983, Coid reviewed 17 studies spanning different periods from 1900 to 1979 in 10 countries, and confirmed that the incidence of HS was constant, averaging 0.2–0.3 per 100,000 persons.⁴ In England and Wales there has been little change in the number of HS over the last 30 years despite the annual increase in homicide.^{5,6} Coid proposed three “epidemiological laws”: (1) the higher the rate of homicide in a population, the lower the percentage of offenders who are found to be mentally abnormal and to have committed suicide, (2) the rate of mentally abnormal offenders and those who commit suicide appears to be the same in different countries, despite considerable differences in the overall rates of homicides, (3) there is some indications that the rate of mentally abnormal offenders and those who commit suicide remains the same, despite a fluctuation in the overall rate over time.⁴ However, two elements vary from a country to another: first the distribution of the events across typological categories, and then the relation between the percentage of HS and the homicide rate: the higher the homicide rate, the lower the percentage of HS. In the United States the annual HS rate has been reported to be between 0.2 and 0.5 per 100,000 (about 1000–1500 deaths per year): for instance 0.3/100,000 in Oklahoma during 1994–2001,⁷ or 0.38/100,000 in Central Virginia during 1990–1994.⁸ With an annual homicide rate of 10/100,000 persons the proportion of HS is relatively low.^{9,10} HS accounted for 5–10% of all homicides in England and 42% of all homicides in Denmark. The annual incidence of HS in Paris was 0.1 per 100,000.¹¹ It has been noted that these events were more frequent in countries where guns are easily available.

3. Victim characteristics

The majority of HS occurs between family members.² Most victims are female: 60% in Paris¹¹ with an average age of 50 years, 66% in Hong Kong¹² with an average age of 32 years, 75% in England and Australia, and more than 80% in the United States.¹⁰ The most common victim is the perpetrator's intimate partner, several years younger than him and usually of the same race. Young children are the second most frequent homicide victims.¹¹

4. Offender characteristics

Perpetrators of HS events are most often male who killed a current or ex-spouse or intimate partner: 75% in Hong Kong,¹² 85% in Paris,¹¹ 90% in England.⁹ In the United States slightly less than half of spousal homicides are perpetrated by wives in self-defense following chronic abuse by husbands. In contrast, over 90% of HS involving couples are perpetrated by men³ (93% in Los Angeles from 1970 to 1979, 97% in Kentucky from 1985 to 1990, 100% in Philadelphia from 1974 to 1975).¹⁰ HS perpetrators are older than “simple” homicide perpetrators. Whereas sui-

cide is distributed across all ages from adolescence to old age for both men and women, HS is confined principally to middle-aged men with marital or common-law relationships with women. Two factors believed to protect against suicide, marriage and parenting, are crucial to the dynamics of HS.¹¹ Women assailants most frequently kill their children and rarely kill adult victims:² 30% in Hong Kong,¹² 45% in Paris¹¹ and less than 10% in the United States.

The prevalence of psychiatric illness in these events is discussed. Depression is one of the most common disorders in HS, involving 20% of the perpetrators. HS have more in common with suicide than homicide. Amorous or morbid jealousy can be involved (“Othello syndrome”). Psychosis is quite infrequent, involving less than 6% of the offenders in Hong Kong.¹²

5. Offender-victim relationship

Men usually kill their partner (Spousal/Consortial Homicide-Suicide) and women their children (Filicide-Suicide). In a few cases the senior male of a household kills every member of his family (Familicide-Suicide). Extra-familial HS have been described, involving disgruntled individuals (Adversarial Homicide-Suicide).

6. Motives for killing

The most frequent apparent reason for killing is the breakdown of an intimate relationship^{2,9} (65% of all HS in the United States, 45% in Paris and 40% in Hong Kong). A history of domestic violence may be found: in Paris half of the offenders had a history of domestically perpetrated violence and chronic spouse abuse.¹¹ Financial stress and physical ill health have been found to be important co-factors, particularly in the elderly.^{13,14} A killing because of financial pressure seems infrequent in European countries: only 5% of all events in Paris and 10% in the Yorkshire.¹⁵ In contrast more than 60% of HS in Hong Kong are triggered by economic reasons.¹² A “deluded altruism” appears to be the primary motive in maternal filicide-suicide.³

The biological, psychological and social determinants of HS are not elucidated. Some authors suggest a lower serotonergic activity in perpetrator, with an underlying deficit of 5-hydroxyindole acetic acid, a serotonin metabolite.³ However, a depressive propensity is not sufficient to explain HS.

Some studies have suggested the role of alcohol in HS. It appears that alcohol or drug abuse does not differentiate HS from suicides or homicides:¹⁰ alcohol was detected at autopsy in 12–50% of offenders and 14–29% of victims.³

7. Manner of killing

Shooting is the most frequently used method of both homicide and suicide in most studies (almost 90% of all

Table 1
Epidemiology of Homicide-Suicide events

Country	Author	Years	HS rate/100000/year	HS %	Homicide rate/100000/year
Victoria, Australia	CM Milroy ²	1985–1989	0.19	10.1	1.87
Hong Kong	SL Beh ¹⁶	1989–2001	0.12	8	
Paris, France	D Lecomte ¹¹	1991–1996	0.1		
Yorkshire, Humberside	CM Milroy ⁹	1975–1992	0.07	4.6	1.5
Oklahoma, USA	RD Comstock ⁷	1994–2001	0.3	4	
Georgia, USA	R Hanzlick ¹⁷	1988–1991	0.46	1.4	38.8
Virginia, USA	SG Hannah ⁸	1980–1984	0.34	2.6	12.7
		1990–1994	0.38	2.6	14.6

cases in the United States, for instance 95% in Kentucky). Hong Kong is an exception with a majority of strangulation/suffocation and chopping/stabbing.¹⁶ Asphyxia is the second most frequent method (26% in England,¹⁵) followed by stabbing (23% in Philadelphia.¹⁰) Beating, jumping or pushing from a height and poisoning are also occasionally used methods. The perpetrator generally uses the same method to commit suicide as the one he used with his victim(s) (see Table 1).

8. Classifications

Two major classifications have been recently proposed. Both are based on victim–offender relationship and motive: the first one in 1992 by Marzuk et al.³ and the second one in 1993 by Hanzlick et al.¹⁷ These classifications can be useful for better understanding of psychopathological mechanisms of HS, and for epidemiological purposes.

Marzuk's typology is principally based on the type of relationship between the victim and offender (Table 2). The most common type (IA) represents 50–75% of all HS in the United States and involves morbid jealousy with a man between the age of 18 and 60 years killing his wife or his female partner using a firearm, because of the breakdown of the relationship with resultant revenge, or after development of suspicion or knowledge of his partner's infidelity. In one variant the perpetrator may kill the rival lover as well before committing suicide.

The second type (IIi-B) comprises elderly men who have poor health, ailing spouses or both, who shoot their wives and then commit suicide. These cases resemble “mercy killings” or simple suicide pacts.¹⁸ In these cases a suicide note exposing motives and last wishes can be discovered at the scene of death.

Major depressive disorder of one or both members of the couple is a frequent diagnosis in a context of anxiety or pain related to illness or handicap.¹⁹

The third pattern is filicide-suicide. The age and sex related risk of dying at the hands of his or her mother or father is unknown. Boys and girls appear to be at nearly equivalent risk. Mothers (type IIIiii) are more likely to kill infants than are fathers (type II2iii). Depression, often with psychotic features, is a frequent diagnostic: the mother per-

Table 2
Proposed Marzuk, Tardiff and Hirsch typology for homicide-suicide³

<i>Type of relationship</i>
I. Spousal or consortial
Perpetrator
1. Spouse
2. Consort
Type of homicide
i. Uxoricide (spouse-killing)
ii. Consortial (murder of lover)
II. Familial
Perpetrator
1. Mother
2. Father
3. Child (under 16 years)
4. Other adult family member (over 16 years)
Type of homicide
i. Neonaticide (child <24 h)
ii. Infanticide (child >1 day, <1 year)
iii. Pesticide (child 1–16 years)
iv. Adult family member (>16 years)
III. Extrafamilial
<i>Class</i>
A. Amorous jealousy
B. “Mercy killing”
C. “Altruistic or extended suicides”
D. Family financial or social stressors
E. Retaliation
F. Other
G. Unspecified

ceives her infant as an extension of herself and both deaths represent an “extended” suicide.^{20,21}

In contrast when the perpetrator is the father, the event is called a familicide-suicide (type IIi/II2i–iv). Typically the senior male who is a depressed paranoid (“family annihilator”) kills every member of his family including his spouse, children, other relatives and even sometimes pets; occasionally the house is set on fire.

The adversarial homicide-suicide is a category typically represented by a disgruntled employee, focusing on his compromised employment, blaming superiors or co-workers for his plight, and developing a persecutory delusion that specific individuals conspired to harm him. The killing can turn into a mass-homicide.¹⁰

Table 3
Proposed Hanzlick and Koponen typology for homicide-suicide¹⁷

	Victim							
	Adult		Child		Infant		Neonate	
	M	F	M	F	M	F	M	F
	1	2	3	4	5	6	7	8
<i>Relationship of victim to perpetrator</i>								
(A) Spouse by marriage								
(B) Common-law spouse								
(C) Unmarried partner in relationship								
(D) Extramarital consort (lover)								
(E) Real or perceived rival lover								
(F) Parent								
(G) Offspring								
(H) Sibling								
(I) Grandparent								
(J) Grandchild								
(K) Niece/Nephew								
(L) Aunt/uncle								
(M) Cousin								
(N) Family member other than those listed								
(O) Acquaintance								
(P) Stranger								
(Q) Same gender as perpetrator								
(R) Opposite gender of perpetrator								
(S) Same race as perpetrator								
(T) Opposite race than perpetrator								
(U) Lives in same household								
(V) Lives in different household								
(W) No living witness(es)								
(X) Living witness(es)								
(Y) Shot								
(Z) Stabbed/cut								
(AA) Beaten								
(BB) Other								
<i>Co-factors</i>								
(a) Impending divorce								
(b) Previously divorced								
(c) Real or perceived loss of nonmarital partner in a relationship								
(d) Jealousy or retaliation for partner's real or perceived involvement with another person								
(e) Retaliation against a real or perceived rival lover								
(f) Mercy killing								
(g) Altruism(to save from "evils of the world")								
(h) Financial stressors								
(i) Family stress or dysfunction								
(j) Perpetrator intoxicated with alcohol								
(k) Perpetrator intoxicated with drug(s) other than alcohol								
(l) Perpetrator had known history of psychiatric illness								
(m) Unspecified, other or unknown factors								
<i>Special classifications</i>								
(n) Family annihilator								
(o) Dyadic								
(p) Triadic								
(q) Followed a mass-murder or serial murders committed by the perpetrator								

Hanzlick and Koponen proposed modifications of Marzuk's typology (Table 3), with more precisions about the victim–offender relationship (for instance developing the possibility of extrafamilial HS), the method of killing and

important co-factors (such as alcohol intoxication or a psychiatric illness history).

Countries vary in the distribution of HS across typological categories. In Hong Kong, "mercy killings" are less

Table 4
Circumstantial information concerning homicide-suicide in Tours, 2000–2005

Case	Age–Sex (a, Homicide; b, Suicide)	Date	Method	Location	Relationship motive	Typology
1	a 80H 65H b 79H	02 June 2000	Beaten/head Beaten/head Hanged	Oustide own home Oustide own home In own home (loft)	Neighborhood's argument, no other clear motive	IIIF
2	a 79 F b 80 H	07 May 2001	Shot/chest Shot/head	In own home (bedroom)	Depressed husband shot wife, declining health	IiIB
3	a 32H b 33 H	05 April 2003	Shot (×4)/ abdomen, chest Shot/head	In the woods	Ex-boyfriend shot new girlfriend; amorous jealousy	IIIE
4	a 37 F b 39 H	4 May 2003	Multiple stabs/ chest Strangulation Submersion	In and outside own home	Boyfriend stabbed girlfriend; amorous jealousy	IiIA
5	a 76 F b 71 H	21 May 2003	Shot/head Shot/head	In own home Hospital Neurosurgical Department	Suicide pact – Man died 2 days later financial stress	IiID
6	a 64 F b 70 H	11 Aug 2003	Shot(×2)/head Shot/head	In own home (bedroom)	Depressed man shot intimate partner; chaotic relationship	I2iiA
7	a 85 F b 81 H (+cat)	21 Feb 2004	Shot/head Shot/head Shot/head	In own home Hospital Neurosurgical Department In own home	Suicide pact; suicide note found; man died 4 days later	IiIB
8	a 33 F b 42 H	13 July 2004	Shot (×2)/chest Shot/chest	Outside own home	Boyfriend shot girlfriend; broken engagement	I2iiA
9	a 48 F b 53 H	02 May 2004	Shot (×4)/face, abdomen Shot/head	In own home (bathroom)	Husband shot wife; amorous jealousy; relationship loss	IiIA
10	a 55 F b 68 H	14 Feb 2005	Shot/chest Shot/head	In own home (living room)	Husband shot wife; impending divorce; argument – phone call to a friend before suicide	IiIA

frequent, but spousal HS with amorous jealousy are more frequent than in European countries.¹⁶ In England and in Japan, maternal filicide-suicides represent a significant percentage of all cases.

9. Material and methods

Indre-et-Loire et Loir-et-Cher are two French provinces. All autopsies and external examinations ordered by the public prosecutor of both provinces are conducted at the Institute of Forensic Science of Tours (Indre-et-Loire).

Cases of homicide followed by suicide were obtained from the files of the Institute for the 6-year period 2000–2005. Information studied included the age and sex of the

perpetrator and victim. The relationship between the victim and the offender, the method of killing and circumstances were noted. Toxicological analyses were not available. Each case has been categorised using the classification system proposed by Marzuk.

Investigations were limited by the perpetrator's death, conducting to the extinction of the public action and the absence of criminal proceedings.

10. Results

The population of the two provinces was 871'000 persons and was relatively constant from 2000 to 2005. During the 6-year period of this study there were 91 homicides,

with an annual homicide rate of 1.55 per 100'000 persons. 10 HS involving a total of 21 decedents occurred during the time period (Table 4). It represents 11% of the total cases of homicides.

11. Discussion

Our data were similar to those obtained in other studies and showed: (a) all perpetrators were male; (b) there was usually one victim (except in case 3), who was most often female and younger than the perpetrator (6 cases); (c) perpetrator and victim were intimate partners in 8 cases; (d) a firearm was used as the weapon in 7 cases. Availability of firearms can be explained by an important activity of hunting in these two rural departments; (e) there was a close temporal proximity between the homicide and the suicide (except in 2 cases); (f) the same method was used for homicide and suicide (except in 2 cases).

In contrast of other studies, no case involving children occurred during the period time. Several cases of filicides following by suicide attempt of the mother were studied at the Institute but have not been included because of the failure to complete the suicide attempt.

The percentage of HS related to the total number of homicides is important and this result confirms one epidemiological “law” of HS: the lower the homicide rate, the higher the percentage of HS.

One limitation of our study is the limited number of cases, which doesn't permit statistical analysis. However, we have followed Marzuk's call for more studies of these events. A research strategy should be developed in France to expand our knowledge of HS. An important phase of this strategy could be the creation of a national surveillance network, so that studies could be conducted over the whole country and over long time span, allowing the possibility of preventive interventions.¹¹ The identification of potentially violent persons who may be depressed or may reflect demographic groups more often involved in HS event, or the identification of spousal violence and relationships with ongoing patterns of abuse which could escalate.

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